MINNESOTA AMENDMENT MN6, TO 180-VI NATIONAL PLANNING PROCEDURES HANDBOOK

PART 600

PEST MANAGEMENT PLANNING

Pest management planning will be consistent with NRCS Policy as stated in the General Manual and the National Planning Procedures Handbook Amendment 2, dated April 1998. Three progressing levels of pest management planning are possible: awareness, advanced and Integrated Pest Management (IPM).

Awareness planning concentrates on: a.) Following product labels and applicable state laws, b.) Proper container handling and disposal, c.) Applicator calibration, d.) Evaluating past pest problems and past pest control effectiveness, e.) Record keeping, f.) Identifying sensitive areas where pest management activities present greatest risk for impacting non-target species and g.) Assessing farmstead pesticide storage and handling procedures.

Advanced pest management concentrates on development of annual field specific plans. These plans are developed based on: a.) Proper identification of pest and pest life stages to determine need for and timing of control (regular and frequent scouting dependent on pest), and b.) Evaluation of various management techniques to effectively control the target species as well as impact non-target organisms (University of Minnesota effectiveness tables are used to help select chemical controls). Factors that promote crop tolerance to pests are also addressed in advanced planning. Such factors include: a.) Providing crops with proper nutrients, water, pH and soil conditions that favor rapid establishment and vigorous growth and b.) Selecting crop varieties which are suitable for the applicable region of the state and which may have tolerance to pests**.** NRCS' Soil Pesticide Interaction Screening Procedure (SPISP) is also used in advanced planning to determine potential for off-site movement of current or proposed chemicals. Limited or no chemical applications within close proximity to sensitive areas is also encouraged in advanced planning. **Advanced pest management planning and management is the acceptable level of NRCS pest management to meet SWAPA+H criteria.**

Integrated Pest Management (IPM) includes all management activities required under advanced planning but increases emphasis on multiple control options including low environmental risk options. These options include reduced rates, use of lower hazard chemicals, banding, cultivation, use of companion crops and installation of additional soil and water conservation practices. Use of one or more of these options is required for cost-shared pest-management when a currently used chemical has both a **high** SPISP rating and is considered highly toxic.

IPM level planning also emphasizes use of Economic Injury Levels (EILs) and Economic Treatment Thresholds to determine need for control for those pests having such limits and thresholds developed for them.

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AWARENESS PEST MANAGEMENT PLANNING

Initial Awareness Planning Procedure

1. Conduct a preliminary analysis of farm environmental sensitivity and the producer's existing pest management efforts. The environmental analysis will include an inventory of sensitive features such as wells, wellhead protection areas, sinkholes, surface waters, depths to groundwater, sandy soils and other soils with high pesticide runoff or leaching ratings. The analysis of existing pest management will include: existing scouting techniques, information used to determine need for and type of control; individuals making the recommendations; procedures used to determine control success; and information related to transport, storage, mixing and loading of pesticides. Inventory forms used to conduct the analysis will become part of the farm case file and will be used for advanced planning. USDA-NRCS form **MN-CPA-**

024, Pest Management Inventory Worksheet, can be used for inventory purposes. **FARM*A*SYST Fact Sheet 2, Reducing the Risk of Groundwater Contamination by Improving Pesticide Storage and Handling** and **FARM*A*SYST Worksheet #2 Assessing the Risk of Groundwater Contamination from Pesticide Storage and Handling** can be used for the farmstead inventory.

2. Develop a schedule for completing tasks necessary for advanced pest management planning.

3. Implementation: Schedule group meetings or one on one visits with producers to conduct tasks scheduled in the awareness plan. Consider using coop agronomists, private crop consultants, extension agents and SWCD staff to help in these efforts.

An awareness plan consists of:

1. A job sheet (sample attached) containing a schedule for: a.) Sprayer calibration, b.) Reporting past pest problems, controls and success, c.) Initiating detailed record keeping, d.) Obtaining necessary pesticide applicators license(s), e.) Beginning effective and routine scouting, f.) Determining site susceptibility for chemicals to move off-site and g.) Developing annual advanced field specific pest management plans. Environmental considerations that affect pest management decisions are also described on the job sheet (e.g. sandy soils, wells, receiving waters and tile inlets).

2. A series of informational fact sheets. The fact sheets will address: a.) Laws (e.g. record keeping requirements), b.) Pesticide handling, storage and disposal issues (e.g. mixing zones, anti-siphoning devices), c. sprayer calibration techniques and proper nozzle selection, d.) Scouting and economic thresholds, and e). Other information on the importance of comprehensive or integrated pest management. A Minn. Department of Agriculture series of 8 pest and pesticide management fact sheets published in Dec. 1998 address most of the items described above and were released to NRCS Minnesota field offices in 1999.

ADVANCED PEST MANAGEMENT PLANNING

Advanced Planning Procedures

1. Review information gathered during awareness planning.

2. Encourage producers to seek professional scouting services and provide them reference materials on pests, pest control techniques, etc.

3. Have producers, in consultation with their advisors, select alternative control techniques using Univ. of Minnesota Bulletins which evaluate the effectiveness of various controls.

4. Develop the pest management plan in consultation with the producer and producer's advisor.

5. Make plan modifications throughout the year as necessary.

6. Help the producer evaluate success of the control techniques by reviewing information gathered by the producer or advisor.

An advanced pest management plan consists of:

1. An aerial photo identifying fields receiving recommendations.

2. Field specific pest management recommendations identifying planning soil type(s) and soil leaching and runoff potentials; pest(s), and timing and method(s) of control including pesticide application methods. Pesticide soil leaching and runoff potentials will also be given if pesticides will be used. And the combined soil and pesticide ratings for leaching and runoff will also be presented.

3. Cautions about avoiding chemical use in close proximity to sensitive areas such as grassed waterways, surface waters, well, tile inlets, sinkholes etc. or avoiding use when potential for drift or

excessive runoff is possible.

4. Recommendations on proper storage, handling and disposal of chemicals and containers.

5. Specific recommendations on crop varieties, and agronomic practices needed to keep crops thriving and vigorous (e.g. a nutrient management plan).

IPM LEVEL PLANNING

IPM level pest management takes considerable time and skill and plan updates and management changes throughout the growing season as pests change.

IPM Planning procedures

It is suggested that local IPM groups be established to accomplish IPM planning (groups should be comprised of coop agronomists, private agronomic consultants, extension agents, NRCS and SWCD staff). NRCS normally does not scout or make the control recommendations in an IPM plan. Rather it is expected that NRCS will guide the development of the plan and its updates insuring that all reasonable pest management options have been explored.

An IPM level plan consists of:

Elements **1-5** of an advanced pest management plan.

6. Specific recommendations to reduce potential for off-site movement of current or proposed pesticides having a high SPISP rating and high toxicity.

DOCUMENTATION

The following items are required when documenting pest management applied:

1. Location of the treatment (farm, tract, field number and acreage applied to) (USDA aerial photos identifying the site are acceptable).

2. Crop, forage or commodity receiving treatment.

3. Pest controlled.

4. Control technique(s) used and date(s) applied

5. Control success.

6. For pesticides, trade name/formulation and rate of application. For restricted use pesticides, include the product's EPA registration number and the applicator's certification number.

7. Other information which may prove useful when evaluating effectiveness of the applied treatment or useful in developing the next year's pest management plan (e.g. yields, conditions other than pests which may have impacted yields, wind directions or speed during application, and applicator skips).

MN. Dept.of Ag. and MN. Ext. Service (MES) Publication AG-FS-0915-S (Reviewed 1997) **Pesticide Application Record** can be used to document pest management controls that involve pesticides. USDA-NRCS-MN form MN-CPA-44 **Water Quality Worksheet** can be used to document other pest management activities such as installation of a pesticide containment facility, installation of backflow devices, sprayer calibration, use of crop rotations etc.

PEST MANAGEMENT

Objective:

Manage pests in a manner that optimizes net income, and minimizes potential negative effects on soil, water, air, plant, animal and human resources.

How:

* Maintain detailed records of past pest management and yields achieved.

* Calibrate application equipment.

* Follow all label requirements when using chemical control treatments.

* Safely store, handle, transport, mix, and dispose of all pesticides, pesticide containers, unused pesticides and rinsate.

* Regularly scout to properly identify pest conditions, need for control and timing of control.

* Select plant varieties resistant to pests and adapted to growing seasons and hardiness in respective areas of the state.

* Plant and harvest in a timely manner and provide crops and forage with nutrients necessary to attain desired yields.

* Consult University of Minnesota (UofM) product effectiveness or efficacy tables when selecting chemical controls.

* Use disease and weed free seed to prevent introduction of pests into fields.

* Remove soil, crop residues, weed seeds and diseases from equipment prior to moving to other fields.

* Use economic injury level and treatment threshold levels when available to determine need for control.

* Use NRCS' Soil Pesticide Screening Procedure (SPISP) to determine relative potential for chemicals to move off-site.

* Develop and follow field specific pest management plans that consider the above factors.

Management Plan for _____	**Date**	**Assisted by**
1. Develop record keeping system by:	_____	_____
2. Use NRCS' SPISP by:	_____	_____
3. Begin applicator calibration by:	_____	_____
4. Begin scouting program by:	_____	_____
5. Select varieties appropriate for region by:	_____	_____
6. Use U of M product effectiveness or efficacy tables by:	_____	_____
7. Develop annual field specific pest management plans by:	_____	_____